



MCCC NEWS

Mid-Cities Commodore Club, Inc.

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PROGRAMMER'S CORNER

By Bob Lawson, FW Night Chapter Librarian

Last month we discussed at length an alternative method of preserving memory and assigning program variables. This month I would like to show you a few alternative ways of creating your screen displays.

To the novice programmer, one of the most useful and easiest commands to master is the print statement. Not only is it useful and easy, it approaches machine language for speed of execution. With a little bit of creativity, it's possible to create screen displays which rival machine language routines that are entertaining to watch. Here's a simple example to display program instructions:

```
10 POKE53280,0:POKE53281,0:PRINTCHR$(147)15
REM ** ENTER INSTRUCTIONS HERE **
20 PRINTTAB(10)"PRESS F1 TO CONTINUE"
3900 B=1
3905 PRINTCHR$(19);
3910 FORI=1TO39:F$=CHR$(185):PRINTF$;:
NEXTI:P RINTCHR$(145)
3915 FORI=1TO3
3920 F$=CHR$(181)
3925 PRINTF$:F$=CHR$(145)+CHR$(18)+CHR$(
181): PRINTTAB(38)F$:NEXTI
3930 F$=CHR$(18)+CHR$(185)
3935 FORI=1TO39:PRINTF$;:NEXTI:PRINTCHR$(
145) CHR$(145)CHR$(145)
3940 PRINTLEFT$(Y$,Y)LEFT$(X$,X)CHR$(146);
3945 B=B+1:IFB>15THENB=0:GOTO3900
3950 POKE646,B
3955 GETA$:IFA$=CHR$(133)THEN3975
3960 GOTO3900
3975 REM ** CONTINUE PROGRAM HERE **
```

I took the liberty of printing an instruction to press the function 1 key in line 20. I then tested for this keypress in line 3955. To change the instruction set, enter your instructions where indicated and then change the test parameters at line 3955. In the above routine, with the exception of the POKE statements which set the border and background colors and the POKE statement in line 3950 which changes the print color, the entire display was created using the print statement. The following routine is a very similar display using poke statements.

```
10 POKE53281,0:POKE53280,0:
PRINTCHR$(147)
15 REM ** ENTER INSTRUCTIONS HERE **
20 PRINTTAB(10)"PRESS F1 TO CONTINUE"
3800 FORZ=1024TO1063:POKEZ,160:NEXT
3805 FORZ=55296TO55335:POKEZ,B:NEXT
3810 FORZ=1063TO2023STEP40:POKEZ,160:NEXT
3815 FORZ=55335TO56295STEP40:POKEZ,B:NEXT
3820 FORZ=2022TO1984STEP-1:POKEZ,160:NEXT
3825 FORZ=56294TO56256STEP-1:POKEZ,B:NEXT
3830 FORZ=1984TO1024STEP-40:POKEZ,160:NEXT
3835 FORZ=56256TO55296STEP-40:POKEZ,B:NEXT
3840 B=B+1:IFB>15THENB=1
3845 GETA$:IFA$=CHR$(133)THEN3875
3850 GOTO3800
3875 REM ** CONTINUE PROGRAM HERE **
```

Again, if you wish to alter the instructions, simply change the test routine in line 3845. As you can see from these routines, the end result is very similar. Using the poke state ent to create images on the screen is somewhat slower but the advantage lies in the fact that the second routine uses less source code thus preserving memory. It should now be obvious that the alternative to using the built-in screen editing features on your C64 is POKEing directly to screen locations.

With this thought in mind, it stands to reason that you can also draw low-resolution graphics using the poke stateent. Because of the numerous poke statements required to handle the colors, graphic images, and screen locations, it is more practical to read this information from data statements. Consider the following:

```
10 POKE53281,0:POKE53280,0:PRINTCHR$(147)
15 READB,CH,CO
20 IFB=-1THEN60
25 FORZ=1TOB
30 READX,Y
35 FORP=XTOY
40 POKEP,CH:POKEP+54272,CO
45 POKEP+54272,CO
50 NEXTP:NEXTZ
55 GOTO15
```

```

60 GOTO60
100 DATA17,81,4,1040,1042,1044,1046,1079
101 DATA1087,1116,1130,1155,1171,1194,1212
102 DATA1234,1252,1271,1295,1310,1336,1349
103 DATA1377,1388,1418,1428,1458,1468,1498
104 DATA1508,1538,1549,1577,1590,1616,1631
105 DATA1655,15,46,3,1121,1122,1124,1125
106 DATA1160,1166,1199,1207,1236,1250,1276
107 DATA1290,1315,1331,1353,1373,1393,1413
108 DATA1433,1453,1473,1493,1514,1532,1554
109 DATA1572,1594,1612,1633,1653,9,21,1
110 DATA1516,1530,1555,1571,1594,1612,1633
111 DATA1653,1673,1693,1713,1715,1731,1733
112 DATA1753,1754,1772,1773,17,160,15,1202
113 DATA1204,1241,1245,1281,1285,1321,1325
114 DATA1362,1364,1400,1406,1438,1448,147
115 DATA1489,1516,1530,1556,1570,1596,1610
116 DATA1636,1650,1676,1690,1717,1729,175
117 DATA1769,1798,1808,1839,1847,12,81,7
118 DATA1879,1879,1919,1919,1927,1927,1887
119 DATA1887,1958,1958,1960,1960,1966,1966
120 DATA1968,1968,1997,1997,2001,2001,2005
121 DATA2005,2009,2009,3,160,15,1363,1363
122 DATA1403,1403,1443,1443,2,87,6,1282
123 DATA1282,1284,1284,1,22,7,1323,1323
124 DATA-1,-1,-1

```

As I stated above, the poke statment is considerably slower than the print statement as evidenced in the above routine. This drawback to using the poke statement can be used to our advantage, however. In the above drawing, it keeps you in suspense until the very end. By the way, Happy Thanksgiving! We were considering having a drawing for a turkey but opted for a turkey drawing instead. It was cheaper. finally, there are times when inclusion of instructions or graphics within the body of the program is not feasible because of memory restrictions. For times like this it becomes necessary to create a sequential file on disk. Then, when you need to read instructions, etc., it becomes a simple matter of opening a channel to the disk drive, reading the data from disk, and displaying it to the screen without those instructions becoming an inherent part of the program itself. The following modification to our last routine may give you some ideas as to possibilities. Be sure you save the original program so you can compare the differences. Line 60 should be modified as follows:

```

60 FORT=1TO1000:NEXTT
65 PRINTCHR$(19);:OPEN3,3
70 OPEN8,8,8,"@0:TURKEY,S,W"
75 FORA=0TO999
80 GET#3,A$:PRINT#8,A$;:NEXTA
85 CLOSE3:CLOSE8
90 END

```

When you run the program now, you will create a sequential file on disk which can be called up from your main program without

using a lot of memory. This particular routine does a screen dump to the disk drive. You could easily modify the routine to dump to your printer or accept input directly from the keyboard. You should, by now, have a general idea of how to do it. Also, this routine does not transfer all the color and editing features from the original program. I'll leave that exercise for you to attempt on your own. The next routine puts things in perspective. Clear your program out of the computer by typing 'NEW', and then enter the next routine:

```

10 POKE53281,0:POKE53280,0:PRINTCHR$(147);C
HR$(5);
15 REM ** ENTER PROGRAM HERE **
100 REM ** CALL UP SEQUENTIAL FILE **
101 OPEN8,8,8,"@0:TURKEY,S,R"
102 GET#8,A$
103 SU=ST
104 PRINTA$;
105 IFSU<>64THEN102
106 CLOSE8
110 REM ** CONTINUE PROGRAM HERE **
111 GOTO111

```

This routine reads your sequential file from disk and displays it to your monitor. It can be used as a stand-alone program to read any sequential file from disk as well as being used as a program sub-routine. Well, this article has gotten rather lengthy, and since I'm on a time sharing plan with my son for use of the computer, I must end this session. Incidentally, if you have noticed in previous articles a symbol appearing which resembles a seahorse or a symbol which resembles a paragraph sign, the printer used by the newsletter staff converts the less than symbol and the greater than symbol, respectively. Substitute these symbols from your C64 to make the programs work. Until next month, happy programming.

1541 Modifications

By Matt Gilbert

Commodore Computer Club of Toledo

An interesting addition that I have added to both my 1541 drives is a power switch on the FRONT of the drive. The back of my drives are very difficult to get to where I have them and so I decided to make things a little more convenient.

What you need is a push-on-push off SPST switch. Use Radio-Shack's #275-1565 (DO NOT USE ANY OTHER from Radio-Shack as they will not fit!) The switch will be mounted on the right side of the drive opposite where the green power LED is located. You will also need about two feet of 18 gauge wire (NO smaller than 18!), a soldering iron, solder, a phillips screwdriver, a drill and a 3/8 bit.

NOTE: You will be soldering and drilling into a very fragile and expensive piece of equipment. Use extreme caution when working on your drive. Do not force anything and be very careful about keeping

dust, plastic fragments and solder away from where it does not belong.

Now, remove all cords and cables from the drive. Turn the drive upside-down, and remove the four phillips screws at the four corners. turn the drive right-side-up and remove the top plastic half and put this somewhere out of the way. You will not need it again until you are done.

Looking down into the drive, you see a metal shield across the top. Remove it (2 screws). Now CAREFULLY remove ALL the wires connected to the circuit board. Remove the screws that hold down the board and then remove the board. Set it somewhere SAFE.

Looking at the front of the drive, drill a 3/8 hole in the same place as the green power LED but on the right side of the disk slot. Now you should end up with a green LED on one side of the drive and a hole on the other side. This switch has a little square protrusion on the side of it; locate it and file out a little piece of plastic from the hole you drilled so that the square will sit in it (this keeps the switch from spinning).

Solder 1 foot lengths of the 18 gauge wire to each lun on the switch. Do this BEFORE you install the switch. Now put the wires and switch in the hole and tighten the nut.

Locate the power switch at the rear of the drive and unsolder the wires from it. Take the wires from the new switch and splice them onto the wires from the original switch. Wrap with some electrical tape to insulate them.

I would suggest that you leave some excess wire between the new switch and the splice just in case. Tuck it between the chassis and the bottom of the plastic case.

You will now notice that we have a power switch in the back of the drive not doing anything. Now you can use this switch for an 8/9 drive device number selector.

Solder two small gauge (20 gauge or



smaller) to the old switch. These wires should also be about a foot long. Route these wires over to where all the connectors for the board are. Keep them out of the way of any moving parts.

Now CAREFULLY reinstall the board and reconnect the wires to it. Refer to your disk drive manual and locate the jumper to cut to turn your drive to device 9. Cut that jumper. Solder the end of each wire (from the old power switch) to one side of the jumper you just cut. Now when the old power switch is ON the drive is device 8; when the switch is OFF the drive is device 9.

Bundle up all the wires and make everything look nice and neat. Replace the metal shield and then the plastic top. Finished.

Since we're doing everything but redesigning the drive you will void the warranty (what little there is) by doing this. You could use a toggle switch instead, but I think these switches look nicer.

Flex File 128

Review by Clem Countess

Flex File is an advanced database program for the C128. It is a rewritten version of Practifile 64, also known as Flex File 64. The C128 version is similar to those programs in appearance and operation but is greatly improved and expanded.

Flex File is self-booting in 40 or 80 columns on either the 1541 or 1571 drives, and can be configured for single or dual drives. There is also a C64 version on this same disk.

This new program is an outstanding example of programming that is designed to use the increased speed, expanded memory capacity, and increased disk storage of the C128 system. Flex File 128 is very similar to Practifile in purpose, appearance, and user handling; anyone having used the older program will be able to jump into the new one without even looking at the docs. The C64 files are also transferable to the C128 version. There are some readily obvious differences, though, like much faster loading and a Directory command to the main menu. When operating with only one disk drive, Practifile could wear your out swapping the program and data disks. Flex File 128 eliminates this problem by loading the entire program into memory, then swapping to the data disk only once for the remainder of the session. However, the new program does support two drives beautifully.

Based on my limited use of Superbase 64, I suspect that Flex File 128 is not as broad or powerful as that program, but it isn't necessary to take a six-week course to learn to use it. I think the primary application areas for Flex File address books, mailing lists, organization membership rosters, etc. It will permit you to sort your data on any of three preselected key fields such as alpha sort by lastname/firstname, or by zipcode for bulk mailing. Criteria can be defined to select the records to be printed: just follow the menu prompts to be guided through with no confusion. It is also easy to design and organize a printed report or address labels.

A file created with Flex File 128 can have up to 40 fields and 254 characters. With a 1571 drive, a file can contain as many as 8,000 records of 31 or fewer characters (such as names and phone numbers), or 1,100 records in a file of 254 characters each. Cut these numbers in half if you are using a 1541 drive.

A new feature added to Flex File 128 is a User option that allows creation of reports in a nonsymmetrical format, such as invoices or sales tickets. This sounds good, but the documentation in this area is lacking and the option is difficult to use.

I have created a number of files with Practifile and am glad to say that all of my C64 data files can be run and printed with the Flex File 128 program. Also, the Flex File 128 data can be handled by the Flex File 64 program, allowing flexibility in sharing data between two computers. The

largest file I have created on Flex File 128 is a football pool with more than 300 people picking the winners in 20 games. That's a lot of data, and Flex File handles it with ease.

I recommend this program for both the beginner and the experienced who have the need for a data base. Flex File 128 can be purchased from:

WOODSoftware
P.O. Box 16193
Wichita, KS 67216
(316) 529-1861

The price is \$49.95, but WOODSoftware is offering a significant discount for Commodore Club Members. If you are interested in purchasing this program, please see either Roger Hoggard or Laura Clements.

Paper Models - The Christmas Kit

Activision

Review By Barbara Cramer

The Christmas Kit is actually a drawing program loaded with 56 files to help you create a number of attractive decorations for the holidays. To make your creations unique, chose from 8 fill patterns, 2 art

files or draw your own personal designs to the screen. When you are finished you may save the screen to a blank disk for future use.

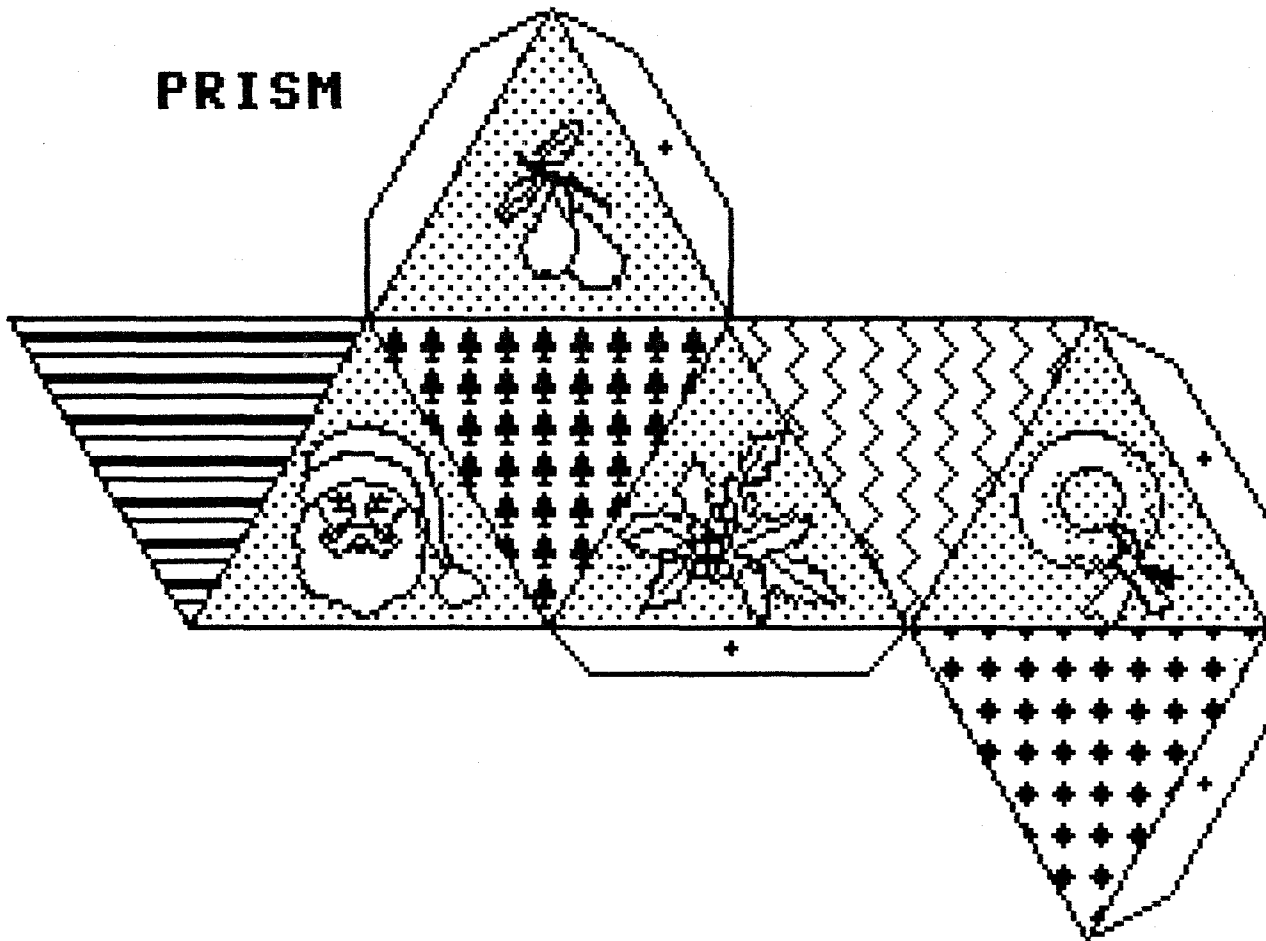
Assembly is required, of course, and Activision has included a red and green marker, 5 jingle bells and a glue stick to help. Ten pieces of heavy card stock are also included to give your ornaments and decorations more body, however, it is not tractor feed paper and will take a little extra effort to use. (If you need more, this type of paper is available from most printers in various colors, sizes and thicknesses.)

The 'Decorator's Guide' (manual) is very easy to use and includes pictures of all the finished decorations along with diagrams for assembly and command explanations of the drawing commands. A large number of printers is supported and the suggestions for use are very helpful.

What exactly can you make using The Christmas Kit? In addition to 5 ornament shapes, you are given complete files for making a sleigh, a locomotive (4 cars), a Dickens village (4 houses and 1 figure), 6 gift boxes and 4 gift holders.

The title of this program leads me to believe there may be more in a series of 'PAPER MODEL' programs. I certainly hope so because my 5 year old has enjoyed this one thoroughly. It provides a great project for the whole family.

PRISM



Logistix

Review by Rick Schulz

Grafofx of England has come out with what they claim is a major breakthrough in PC software for the businessman: Logistix is basically another in a long line (and getting longer) of Lotus 1-2-3 clones. Lotus users will recognize many similarities in the commands, although the command menu is displayed at the bottom rather than at the top of the spreadsheet. If Logistix were just a spreadsheet package, I would point out that there are several other products on the market which provide a spreadsheet with all the standard functions at a lower price and are easier to use.

However, Logistix, according to its advertising, "integrates both time and financial functions." This done by setting up one section of the spreadsheet for the financial data of each task, and another section which shows the start and finish of each task. What is provided is a scaled-down PERT/CPM critical path analysis; what is lacking are the more complex analyses of time-earliest and time-latest, critical events lists, cost of each month/day/hour of negative slack, etc., which are the standards of classical PERT/CPM.

On the plus side, Logistix is very well documented. There is an introduction booklet (38 pages in length) which will guide the novice through the uses and functions of a spreadsheet with simple examples. The other booklets, covering the spreadsheet, the time graph and charts and graphs are very detailed. As I stated before, the user must be prepared to spend time studying the documentation carefully before trying this package. The only flaw with documentation is its reference to keys which do not appear on my keyboard (does anyone have a key labelled "PAGE DOWN" or "HOME"?). The documentation is very thorough, and if you can get by the oblique referents, I suspect most questions can be answered by closely studying the various manuals provided.

While this is a powerful piece of software, it fails to take advantage of the Amiga's mouse and pull-down menus. As a result, prospective buyers must be prepared quite a bit of time learning the many, many commands and the system is not as easy to use as it could be.

The buyer should also be aware that the disk is copy protected; therefore you cannot make a backup copy, and run a greater risk of encountering software problems in the future. Also needed to load Logistix is a "dongle", a nine-pin plug that plugs into the second mouse/joystick port on the right side of your Amiga. This is absolutely necessary to load the program, and if it is lost it cannot be replaced (so says their documentation). If you decide to buy this package, you had best lock the dongle up in a safe place, or your \$250 investment will be out the window for lack of a \$2.50 plug. All this is done "in order to protect your investment", but who is kidding who?

If you truly need a PERT/CPM software package, this may be the way to go. If all you need is a spreadsheet, there are better ones out there for the Amiga.

Software provided courtesy of Software Terminal. Suggested retail price of Logistix is \$249.95.

Marble Madness

Electronic Arts

Review by Barbara Cramer

Marble Madness is a home computer version of the popular arcade game of the same name. Designed for 1 or 2 players, you control a marble which rolls through a series of flat and tilted surfaces, tunnels, curved passageways, pipes, etc. on your way to the squares marked as the GOAL. With six screens of play, you will encounter various adversaries in the form of intelligent sprites. If you are playing by yourself points will be added or time will be subtracted for making the right or, more often, wrong moves.

As you would expect, the graphics and sound qualities are excellent, superb on the Amiga version. Control of the marble is also good, even better on the Amiga. The sprite control and clarity of three dimensional screens is especially critical in this game since you must master each level in order to proceed to the next. In several hours of play, I was only able to advance to the second maze. This can be very frustrating to arcade fans like myself who like this type of game but do not possess the time to perfect the skill required to see all six levels.

Marble Madness provides a great variety of challenges, interesting and changing graphics and sprites, and, a good array of both mental and coordination puzzles for average to exceptional arcade fans. My only fear is that once you get stuck and frustrated, you may give up and never get to see the rest of a really superior game.

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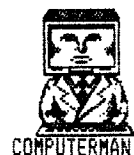
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Graphics Scrapbook - Off the Wall

Epyx Software

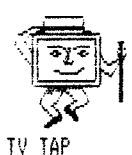
"Off the Wall" is a good title for this collection of PrintShop/PrintMaster graphics. The array of pictures is varied from practical to 'strange'. Since it is difficult to make judgements for people of differing artistic taste, we have included a sampling of the 104 graphics on this disk. Judge for yourself!



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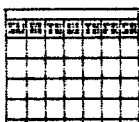
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SAD SANTA



DOVE

Utility Bill Audit

Catalina Commodore Computer Club

Utility Bill Audit is a versatile program that lets you check your electric, gas, water, and phone bills for accuracy, or split the costs of these bills among the people living in your household. Also if you are interested in energy savings (and who isn't these days?), you can monitor your daily electric and gas consumption with this program.

Before you run this program, it is necessary to have a thorough understanding of how each bill is calculated in the program. First a particular bill is split up according to the values (2,1,2,4) given in the DATA statements in line 1640. These values are assigned to the variable N(X) and represent the number of individuals who must pay for each bill. In its present form, the program assumes that the electric and water bills will be paid by two individuals, the phone bill by four, and the gas bill by one individual. However, it's unlikely that these numbers will correspond to the financial arrangements in your household. So, be sure to substitute the appropriate values in this line before you continue. Of course, if the bills are paid by one individual in the house, simply replace all four numbers in line 1640 with 1,1,1,1.

Since the program works on the actual costs of your utility bills based on local rates, certain information about these rates must be provided before you can run the program. This information is READ in lines 380 and 400 from DATA statements in lines 1650-1680.

Notice that the first three DATA statements in this sequence have nine entries and apply to the electric, gas, and water bills respectively. Let's consider line 1650 as an example. The first entry in this line is the name of the utility (ELECTRIC) for which the rates that follow apply. The second entry is the unit of measurement for that particular utility (KWH for kilowatt hours). The next entry is the minimum service charge for the utility (\$5.40 for electricity). The fourth entry is the tax rate based on the sum of the service charge and the rate charge (0 percent for electric use). The first four DATA entries are READ in as A\$(1), B\$(1), M(1), and Z(1), respectively.

At this point, the numbers begin to get a little confusing, so read carefully. The next two numbers are cutoff limits for each electric rate and are represented in the program by L1(1) and L2(1). The last three numbers are the actual rates charged per KWH for each level of usage (R1(1), R2(1), and R3(1)) in the program. Thus, the program is presently set up so that the rate charged for electricity is \$0.0495 for the first 350 KWH, \$0.0565 for the next 950 KWH (i.e., 1300 minus 350), and \$0.0541 for any usage exceeding 1300 KWH.

The DATA statement in line 1680 is easier to follow: the utility (PHONE), the

minimum service charge (\$13.50), and the tax rate on the service charge and long distance calls (3 percent).

So, get out your most recent bills and read off the various rates (per KWH for electric, per CCF or hundred cubic feet for gas and water). If the rates are not given on a bill, contact the utility company to get a schedule of the latest rates. Then substitute your local rates for those in the DATA statements in lines 1650 and 1680.

After inserting the correct rates, run the program. You will then be asked which utility bill you wish to check. The first menu choices are electric, gas, and water bills. Bills for these three utilities are all calculated in the beginning at line 560. Let's look at an electric bill as an example.

When the routine at line 560 is executed, you will be required to INPUT the present and previous meter readings. These values can be read directly from your latest electric bill. Next, you must INPUT the number of days in the billing period.

Then you will be asked to INPUT and adjustments to the bill, either positive (for example, connection fees, previous balances) or negative (credits).

The program will next calculate the amount of electricity consumed for the given period (defined as U in line 720).

Then, depending on the value of U relative to the two rate limits, L1(1), and L2(X) (lines 740 and 750), an amount owed (T) before tax and adjustments will be calculated (lines 760, 780, and 800).

Next, the tax on this amount will be determined (T1). And finally, a total electric bill - the sum of the minimum charge, usage cost, tax, and adjustments - will be calculated (T3) in line 830.

The results are the PRINTED on the screen with provisions for formatting the output to two places past the decimal. Any numbers in the third place past the decimal are simply dropped. If you prefer rounded numbers, you could easily modify the program to achieve that.

The routine beginning at line 560, as mentioned, also calculates the gas and water bills. These are based on the rates READ from the DATA statements in lines 1660 and 1670. Notice the sets of large numbers (precisely, 99999) in line 1660. The rates for gas where I live are the same, regardless of the amount used. By using large numbers here for the cutoff limits, L1(2), for this utility, it's unlikely that the actual usage will exceed these amounts (see lines 740 and 750). Thus, the charge for this commodity will always be based on the first rate, or R1.

The rates for water, as READ from the DATA statement in line 1670, are based on a single cutoff limit (L1(3)) of 100 CCF. For less than this, a usage rate (R1(3)) of \$0.144 per CCF is charged. If water usage exceeds 1000 CCF, a second rate (R2(3)) of \$0.160 is charged. Again, using a very large number (99999) for the second cutoff limit (L2(3)) assures that the overall usage is based only on two rates.

Phone bill are checked in a separate

routine in the program beginning at line 1110. In this routine, adjustments to the bill are initially INPUT in the same manner as they are with the electric, gas, and water bills. Next, the person responsible for each long distance charge is required to INPUT the amount of each long distance call. A separate routine (lines 1260-1360) allows the individual to correct any typing mistakes. Finally, the amount owed by one individual is displayed.

The portion of the phone bill that each person must pay is the sum of his long distance tolls, a proportional amount of both the service charge and the billing adjustments, and a proportional amount of the tax levied on the service and long distance calls. Again, if only one person in the household foots the bill, the last number in line 1640 should be 1.

In addition to enabling you to catch billing errors and helping you to easily divide up household bills, the program can monitor your costs. If you add an energy-saving device that is supposed to save, say, 10 percent of your total electric bill, take a meter reading when it is installed and verify the savings with a later reading. You can also project weekly, monthly, and yearly savings for any utility in this manner.

PROGRAM LISTING

```

90 DIM A$(4),B$(4),L1(3),L2(3),M(4),
   R1(3),R2(3),R3(3),W(50),Z(4)
100 GOTO 340
110 A1=0
120 PRINT"INPUT ADJUSTMENTS TO BILL(+ OR
   [SPACE]-,'0' WHEN DONE)"
130 INPUT E
140 A1=A1+E
150 IF E=0 THEN 170
160 GOTO 130
170 GOSUB 250
180 GOSUB 290
190 RETURN
200 PRINT"(CLR)"
210 RETURN
220 PRINT "[2 SPACES]";A$(X);" BILL(CONT')"
230 PRINT
240 RETURN
250 FOR I=1 TO 3
260 PRINT
270 NEXT I
280 RETURN
290 PRINT"INPUT C TO CONTINUE)
300 INPUT C$
310 GOSUB 200
320 RETURN
340 FOR I=1 TO 4
350 READ N(I)
360 NEXT I
370 FOR I=1 TO 3
380 READ A$(I),B$(I),M(I),Z(I),L1(I),
   L2(I),R1(I),R2(I),R3(I)
390 NEXT I
400 READ A$(4),M(4),Z(4)
410 GOSUB 200
420 PRINT"[2 SPACES]UTILITY BILL AUDIT"
430 GOSUB 250
440 PRINT" 1. ELECTRIC BILL"
450 PRINT" 2. GAS BILL"
460 PRINT" 3. WATER BILL"
470 PRINT" 4. PHONE BILL"
480 PRINT" 5. ALL OF THE ABOVE"
490 PRINT" 6. EXIT"
500 PRINT
510 PRINT
520 PRINT" CHOOSE AN OPTION ";
530 INPUT P
540 IF (P$1)+(P$6) THEN 530
550 ON P GOTO 1020,1050,1080,1110,1590,1690
560 GOSUB 200
570 PRINT"[4 SPACES]";A$(X);" BILL"
580 PRINT
590 PRINT"PREVIOUS METER READING"
600 INPUT E1
610 PRINT
620 PRINT"PRESENT METER READING"
630 INPUT E2
640 PRINT
650 PRINT"INPUT DAYS IN THE BILLING PERIOD"
660 INPUT D
670 GOSUB 250
680 GOSUB 290
690 GOSUB 200
700 GOSUB 220
710 GOSUB 110
720 U=E2-E1
730 Y=U/D
740 IF U\L2(X) THEN 800
750 IF U\L1(X) THEN 780
760 T=M(X)+R1(X)*U
770 GOTO 810
780 T=M(X)+R1(X)*L1(X)+R2(X)*(U-L1(X))
790 GOTO 810
800 T=M(X)+R1(X)*L1(X)+R2(X)*(L2(X)-L1
   (X))+R3(X)*(U-L2(X))
810 T1=T*Z(X)
820 T2=T+T1
830 T3=T2+A1
840 GOSUB 200
850 GOSUB 220
860 PRINT" USE FOR THE PERIOD IS ";INT
   (U*100)/100;" ":B$(X)
870 PRINT
880 PRINT"USE/DAY IS ";INT(Y*100)/100;
   "[SPACE] ";B$(X);" OR $";
890 PRINT INT(T2/D*100)/100;"/DAY
   INCLUDING TAX"
900 PRINT
910 PRINT A$(X);" BILL:"
920 PRINT"W/OUT TAX[2 SPACES]:$";INT
   (T*100)/100

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930 PRINT" TAX IS[5 SPACES]:"$";INT
    (T1*100)/100
940 PRINT" ADJ'TS[5 SPACES]:"$";A1
950 PRINT
960 PRINT"[2 SPACES]*TOTAL*[3 SPACES]:"$";
    INT(T3*100)/100
970 IF N(X)=1 THEN 990
980 PRINT"SPLIT ";N(X);" WAYS:"$";INT
    (T3/N(X)*100)/100
990 PRINT
1000 GOSUB 290
1010 RETURN
1020 X=1
1030 GOSUB 560
1040 GOTO 430
1050 X=2
1060 GOSUB 560
1070 GOTO 430
1080 X=3
1090 GOSUB 560
1100 GOTO 430
1110 GOSUB 200
1120 X=4
1130 PRINT"[5 SPACES]";A$(X)" BILL"
1140 PRINT
1150 GOSUB 110
1160 FOR K=1 TO N(X)
1170 I=1
1180 IF N(X)=1 THEN 1200
1190 PRINT"FOR PERSON #";K;",";
1200 PRINT"INPUT CHARGE FOR EACH LONG
    DISTANCE CALL (INPUT '0' WHEN DONE)"
1210 INPUT W(I)
1220 IF W(I)=0 THEN 1250
1230 I=I+1
1240 GOTO 1210
1250 GOSUB 200
1260 PRINT" PERSON #";K;",";
1270 FOR J=1 TO I-1
1280 PRINT"CALL #";J;"[2 SPACES]:"$";W(J)
1290 PRINT
1300 PRINT"IS THIS CORRECT Y/N"
1310 INPUT C$
1320 IF C$="Y" THEN 1350
1330 PRINT"TYPE IN CORRECTION"
1340 INPUT W(J)
1350 PRINT
1360 NEXT J
1370 GOSUB 200
1380 GOSUB 220
1390 T=0
1400 FOR J=1 TO I-1
1410 T=T+W(J)
1420 NEXT J
1430 PRINT"SERVICE:[3 SPACES]:"$";INT(M(X)
    /N(X)*100)/100
1440 PRINT
1450 PRINT"LD CALL:[2 SPACES]:"$";T

```

```

1460 PRINT
1470 PRINT"ADJ'TS :[3 SPACES]:"$";INT
    (A1/N(X)*100)/100
1480 PRINT
1490 T=T+INT(M(X)/N(X)*100)/100
1500 T2=INT(T1*Z(X)*100)/100
1510 PRINT"TOTAL TAX: $" ;T2
1520 PRINT
1530 PRINT
1540 PRINT"TOTAL BILL: $" :T1+T2+INT
    (A1/N(X)*100)/100
1550 GOSUB 250
1560 GOSUB 290
1570 NEXT K
1580 GOTO 430
1590 FOR F=1 TO 3
1600 X=F
1610 GOSUB 560
1620 NEXT F
1630 GOTO 1110
1640 DATA 2,1,2,4
1650 DATA ELECTRIC,KWH,5.40,0,350,1300,
    .0495,.0565,.0541
1660 DATA GAS,CCF,4.05,0,99999,99999,
    .49541,0,0
1670 DATA WATER,CCF,3.26,0,500,9999,
    .144,.160,0
1680 DATA PHONE,13.50,.03
1690 END

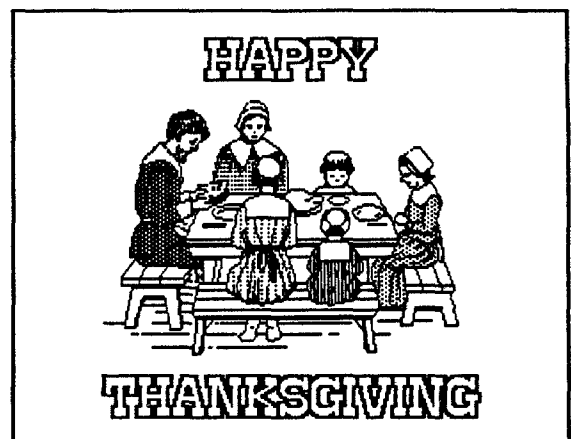
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CHAPTER NEWS

FT. WORTH CHAPTER

At the last chapter meeting, a vote was taken regarding a separate December chapter meeting. The vote resulted in a decision not to meet as a chapter in December. We will meet in November on the 8th at the usual time and place, however. At that meeting we will hold the usual elections for new officers. Anyone desiring to be a candidate for a chapter office for next year, please contact Joe Ostrokol at 534-1990.

We would like to extend special thanks to John Malmstrom and Okley Moss for their presentation of Sixth Sense and Partner 128. Their presentation was very interesting and demonstrated again the many capabilities of the 64 and 128.

Except for the election, the November program will be a surprise. We are sure you will not want to miss it.
SEE YOU THERE.-Jill Campbell

ARLINGTON CHAPTER

At the October meeting of the Arlington chapter, the following officers for next year were nominated:

President-Don Bennett
Vice President-Billy Edwards
Treasurer-Clem Countess
Secretary/Reporter-Billy Godfrey
Librarian-Ken Bruen
Assistant Librarian-Jake Brooks
Activity Chairman-Della Petersen.

The chapter would like to thank Bruce Umbreit for his excellent printer presentation. This is one program no one walks out on!

The next meeting of the chapter will be on November 8 at the usual time, 9 am, and place, the Arlington Community Center. Scott Lamb will show us how to develop and market software.

At the December meeting, software and hardware gift ideas will be demonstrated. Also, we will have refreshments provided by the membership, the chapter, and the officers. Please let me know at the November meeting what software, hardware, or refreshments you plan to bring to the December meeting.- Jonathan Riba

AMIGA CHAPTER

The September meeting featured a presentation by Jack Smith on bulletin board systems. This talk covered many basic concepts and features of such systems, and was informative for both beginners and experienced people alike.

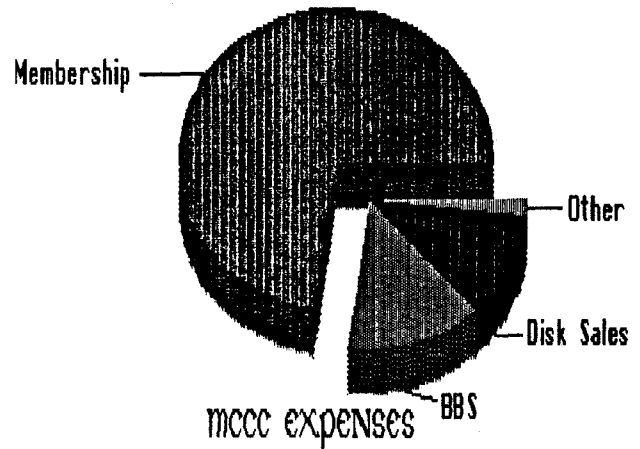
Important chapter news: Just a reminder that the meetings will begin at 7 p.m. and will come to order promptly at 7:30 pm, allowing the members 30 minutes to register for the door prize, buy disks, socialize, etc. Microsoft's Flight Simulator should be available in early October and promises to be one of the best such packages on the P.C. market. Also expected soon is the Emulator Kit which will allow C64 software to run on the Amiga.

October's meeting will feature a demonstration of home banking presented by Diane Calhoun of InterFirst Banks. Home

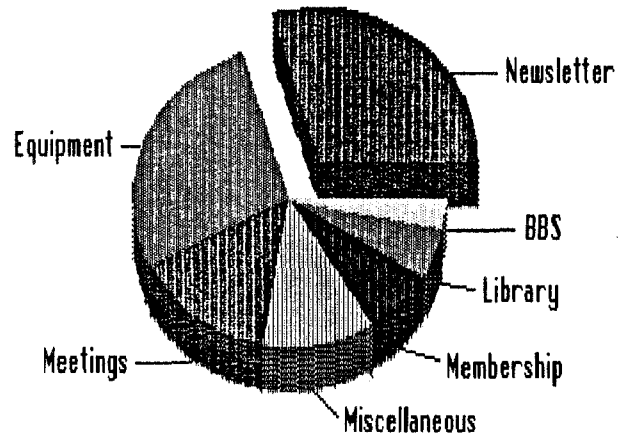
banking is one of the most powerful features of a personal computer, providing current balance, automatic transfer of funds and payments of bills without writing checks. This is one you don't want to miss!

At the November meeting there will be a demonstration of at least two sound digitizing systems (perhaps more if our club officers can arrange it.) At the September meeting the disk of the month contained a file called "psound.arc", which is a very powerful sound editor, and will be displayed at the November "Sound Off". Members may wish to take a few minutes to experiment with this program and familiarize themselves with sound editing prior to the November meeting.-Rick Schulz

mccc income



mccc expenses



CLUB INFORMATION

The MID-CITIES COMMODORE CLUB is a non-profit organization devoted to the collection and dissemination of computer knowledge, to the encouragement of computer education and to the use of Commodore computers in the home, at school and in business. Appropriate and legal use of all types of software is encouraged by this club.

The MCCC is not connected with Commodore Business Machines Ltd. or Commodore Inc. Commodore and Commodore product names (PET, CBM, VIC and C64) are registered trademarks of Commodore Inc.

Our meetings are open to all. Yearly membership dues are \$20.00 and entitle the member to a monthly mailed copy of the MCCC NEWS, the club newsletter, library copying privileges, attendance at any or all chapter and club meetings as well as participation in club-sponsored classes. Dues are paid on a calendar year basis and new members who join after March 31 of each year pay prorated dues for the months remaining.

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COMMERCIAL RATES are as follows:
\$60.00 per full page ad, \$30.00 per half page ad, \$20.00 per quarter page ad and \$10.00 per business card. Non-members will pay commercial rates.

The deadline for submissions to the MCCC NEWS is the third Saturday of each month. PAYMENT MUST ACCOMPANY CAMERA-READY AD COPY. Make all checks payable to Mid-Cities Commodore Club and mail to MCCC NEWS, P.O. 1578, Bedford, TX 76021.

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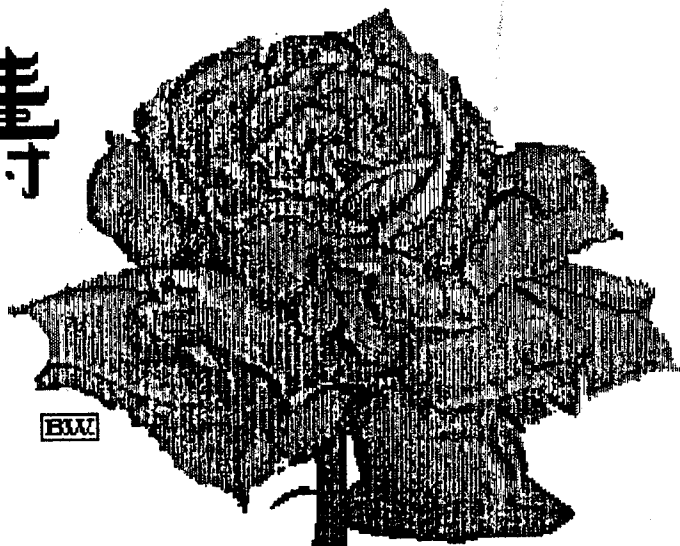
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NOVEMBER

MEETINGS

SUN	MON	TUE	WED	THU	FRI	SAT
						1 BOARD MEETING 10AM
2	3	4	5	6	7	8 ARLNGTN FT/WRTH GRAND PRAIRIE
9	10	11	12	13 AMIGA 7PM	14	15 H.E.B. 1:30PM
16	17 FT/WRTH NIGHT 7PM	18 GRAND PRAIRIE 6:30PM	19	20	21	22
23	24	25	26	27	28	29
30						

Nov. 1 BOARD MEETING, 10am
Western Hills Inn

Nov. 8 ARLINGTON CHAPTER, 9am
Arlington Community Center

FT. WORTH CHAPTER, 1:30pm
Gen. Dyn. Rec. Area, Rm 2

GRAND PRAIRIE CHAPTER, 1:30pm
G. P. Public Library

Nov. 13 AMIGA CHAPTER, 7pm
Arlington Community Center

Nov. 15 HEB CHAPTER, 1:30pm
Hurst Recreation Center

NEWSLETTER DEADLINE

GET READY FOR THE CLUB PARTY IN DECEMBER!

Nov. 17 FT. WORTH NIGHT CHAPTER, 7pm
St. Elisabeth Episcopal Church

Nov. 18 GRAND PRAIRIE, 6:30pm
G. P. Public Library

Dec. 6 BOARD MEETING, 10am
Western Hills Inn

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